Apple IIGS: Sound Logic

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To support sound, the Apple IIGS has the Apple IIGS Sound General Logic Unit,
an Ensoniq sound chip, 64K of dedicated sound RAM, and associated circuitry.

Sound General Logic Unit

The Apple IIGS Sound General Logic Unit (Sound GLU) provides an interface
between the Ensoniq sound chip and the remainder of the Apple IIGS logic
system. The Sound GLU permits the Ensoniq chip to run independently of the
Mega II chip.

The Sound GLU contains a control register, data register, and address
pointer. Bits within the control register determine the system volume level
and control the flow of information between the Ensoniq chip and Sound RAM.
The data register and address pointer are used to transfer information to and
from the dedicated 64K of Sound RAM to the Ensoniq digital oscillator chip.

Ensoniq Digital Oscillator Chip

The Ensoniq chip contains 32 oscillators, two of which are reserved for use
by the Apple IIGS itself. The remaining 30 oscillators are used in pairs to
produce 15 sound voices. Each oscillator uses seven DOC registers which
contain such parameters as the frequency rate at which the oscillator steps
through its wavetable, the size and starting address of the wavetable, data
obtained from the wavetable, and the volume and mode of the oscillator.

Sound RAM

64K of RAM is provided for the exclusive use of the Ensoniq DOC. It contains
wavetables, which are digitized waveforms, for each of the oscillators.

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